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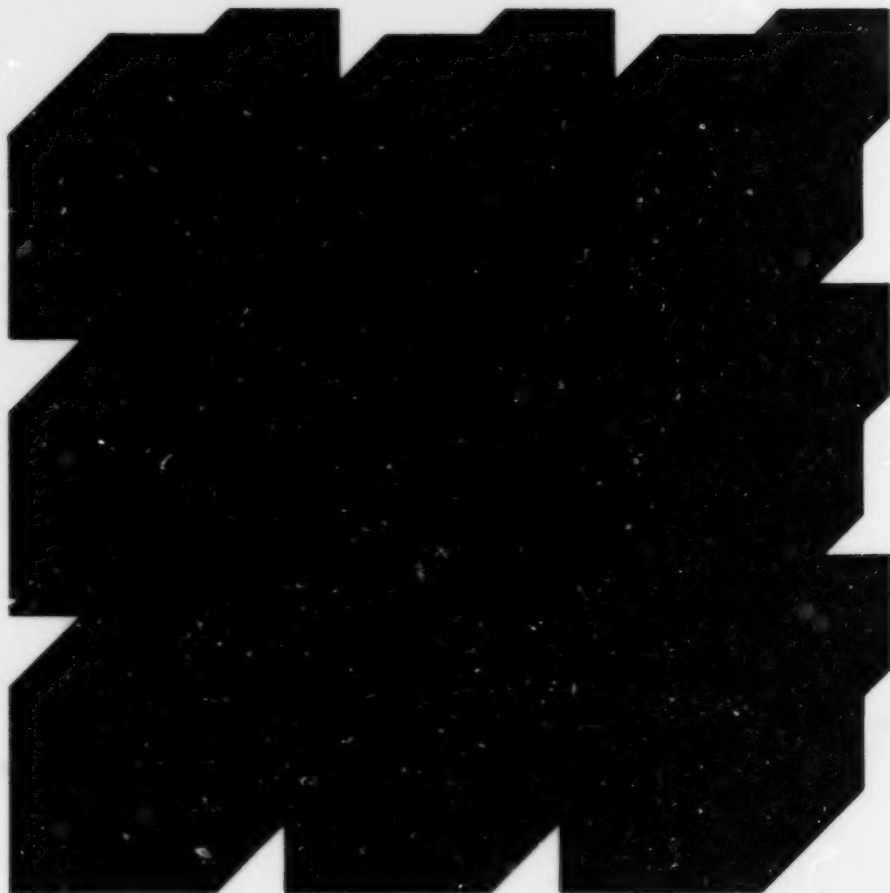


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DISCUSSION PAPER NO. 268

Blueprints and Pathways:
The Shifting Foundations
of Tax Reform

by Walter Hettich and
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RÉSUMÉ

Il y a moins de deux décennies, existait chez les économistes un consensus général quant à la conception et à la réforme du régime fiscal, comme en témoignent le rapport de la Commission royale d'enquête sur la fiscalité (1966) et sa réception dans la profession. Aujourd'hui, ce consensus n'existe plus. La théorie de l'impôt équitable, qui constituait la base du rapport de la Commission royale, est maintenant contestée par deux théories concurrentes : celle de l'impôt optimal et celle de l'échange fiscal. Les trois approches ont des implications assez différentes et conduisent souvent à des recommandations opposées pour la conception et la réforme du régime fiscal. Il est donc essentiel de bien comprendre la logique fondamentale de chacune de ces théories et les motifs qui ont inspiré leurs conclusions divergentes. Les auteurs du présent document se penchent sur chacune de ces trois théories, en portant une attention particulière à leurs bases philosophiques et aspects principaux d'analyse, aux diverses opinions sur la structure idéale, ainsi qu'aux difficultés présentées par son implantation, difficultés qu'ont souligné les auteurs dans chacun de ces systèmes traditionnels. Ils traitent en outre d'un problème commun aux trois théories, soit le caractère de second rang d'une réforme fiscale partielle. Les implications des diverses traditions pour la structure fiscale, les problèmes de mise en oeuvre et la réforme partielle sont résumés dans une série de tableaux. Les auteurs discutent des possibilités d'une synthèse, et énumèrent les éléments qu'une telle synthèse devra retenir. Ils en arrivent à la conclusion que, bien qu'il ne soit peut-être pas possible d'espérer un consensus en raison de désaccords sur les valeurs fondamentales, il y aurait avantage pour la politique fiscale à créer un cadre logiquement complet qui comprendrait des éléments de chacune des trois traditions et permettrait d'établir un lien clair et explicite entre les hypothèses sous-jacentes et les conclusions en matière de politiques.

Abstract

Less than two decades ago there was a broad consensus among economists concerned with the design and reform of taxation as demonstrated by the report of the Royal Commission on Taxation (1966) and the profession's response to it. Today this consensus has broken down. The theory of equitable taxation which formed the basis for the Royal Commission's report has been challenged by two competing theories: optimal taxation and fiscal exchange. The three approaches have quite different implications and yield often strongly conflicting advice for tax design and reform. It is therefore essential to understand the logical basis of each approach and the reasons behind their divergent conclusions. The paper reviews and analyzes the three approaches, paying particular attention to philosophical foundations and major focus of analysis; to views of what constitutes an ideal tax structure; and to problems of implementation emphasized by writers in each tradition. It also discusses a problem common to all three theories, namely the second-best nature of partial tax reform. Implications of the different traditions for tax structure, for problems of implementation and for partial reform are summarized in a set of tables. The paper comments on the possibilities for a synthesis, and shows the elements that such a synthesis will have to contain. It concludes that while a new consensus may not be possible because of disagreements on basic values, tax policy would be well served by the creation of a logically complete framework which could accommodate elements from all three traditions and which would allow a clear and explicit connection to be drawn between underlying assumptions and policy conclusions.

1. Introduction

There is much disagreement among economists today on what constitutes a good tax system. While disagreement in the profession is not unusual, it is a fairly recent phenomenon in this instance. Less than two decades ago, there was a broad consensus among economists concerned with the design and reform of taxation as demonstrated by the response to the Royal Commission on Taxation (1966). The Commission's report, one of the most comprehensive and detailed blueprints for tax reform ever created, was received by economists in Canada and abroad with nearly unanimous acclaim.

As often happens in the development of academic disciplines, the breakdown in consensus was linked to the rise of a new tradition of analysis. The 1970s witnessed the rapid development of a new approach to tax problems, often called the theory of optimal taxation (OT). It was based on different normative assumptions and provided a different emphasis from so-called equitable taxation (ET), the predominant theory in the 1950s and 1960s. More recently, a revival and reformulation of the fiscal exchange approach (FE) has provided a further competing point of view from which to consider problems of tax design and reform.

Since ET, OT, and FE all influence the discussion of tax policy and tax reform today, it is important to understand how the three traditions differ and what assumptions are responsible for the often conflicting advice offered by economists taking them as their starting points. Furthermore, it is essential to realize that each tradition has a well developed analytical and philosophical basis that cannot be readily rejected as inappropriate or logically deficient. In fact, careful analysis reveals elements in each approach that are missing from the competing traditions, but that will have to be part of any successful synthesis to be developed in the future.

The present paper reviews the implications of the three approaches, paying particular attention to philosophical foundations and major focus of analysis; to

views of what constitutes an ideal tax structure; and to problems of implementation emphasized by different writers in each tradition. Sections 2 to 4 of the paper are each devoted to a particular tradition. Section 5, on the other hand, deals with a problem common to all normative analysis, namely the second-best nature of partial tax reform. The sixth section draws the results from the earlier parts of the paper together, giving a comparative account of major differences among traditions. Implications for tax structure, for problems of implementation and for partial reform are summarized in a set of tables. A final section briefly comments on the possibilities for a synthesis and on the elements that such a synthesis must contain. Particular attention is paid here to the limitations of the existing traditions concerning the operation of the political system.

2. Tax Structure in Equitable Taxation

a. Philosophical and Analytical Foundation

The theory of equitable taxation (ET) derives primarily from the work of Henry Simons who developed it as part of a broader framework for economic policy (1936). Simons had his philosophical roots in classical liberalism; he emphasized individual liberty as the primary value, together with equality as next in importance. His economic program called for institutions and policies that minimized political interference in economic life. The public sector had an important role; among other functions, it had to provide services that the private sector could not supply effectively and to create greater equality through redistribution. Since benefit taxation was not practical, a way of taxation had to be developed which raised money according to principles of fairness and which also limited the interference of the political process in the market economy. Drawing

on the work of Haig and Schanz, Simons formulated the concepts of comprehensive income and of the comprehensive tax base.

b. Main Focus of Analysis

There are several essential ideas basic to an understanding of ET. As mentioned, the approach deals separately with the tax and expenditure sides of the budget. Taxation is imposed in accordance with ability to pay, which is measured without reference to utility theory. In proposing his own measure, i.e., the change in net wealth plus consumption defined over an appropriate accounting period, Simons had argued against the use of utility analysis and for a concept having a direct counterpart in measurable dollar flows (Hettich, 1979a). ET makes an important distinction between horizontal equity—the equal treatment of taxpayers with the same ability to pay—and vertical equity, i.e., the taxation of those in different economic positions. The main focus is on horizontal equity and the definitional questions that it raises. ET has little to say about vertical equity, the determination of which is left to the political process.

ET does not integrate other objectives, such as efficiency, into the analysis. As a result, those making use of the ET framework cannot deal systematically with the trade-off among policy goals. The difficulties created by this shortcoming can be illustrated with reference to the best-known and most comprehensive attempt to apply the principles of ET, i.e., the Report of the Royal Commission on Taxation (1966).

As dictated by the approach, the Commission's main focus of analysis is on horizontal equity and the design of a comprehensive tax base. The Commission recognizes several different objectives for the tax system, however, arguing that Canadians "want unity, more goods and services, full employment without inflation, a free society and a strong independent federation," (1966, 1, 3). It also realizes

that there may be conflicts among objectives, but states: "When faced with these hard choices we have consistently given the greatest weight to the equity objective....We are convinced that scrupulous fairness in taxation must override all other objectives where there is a conflict among objectives," (1966, 1, 4).

A conflict among policy goals can of course be avoided by a lexicographic ordering—the path chosen by the Commission. From an economic point of view, this is hardly a satisfactory solution, however. If Canadians want equity as well as, for example, more goods and services, one may expect instances where they would forego increased equity for greater production. The primacy that ET places on equity can be better understood if we accept Simons' view of the comprehensive tax base as a quasi-constitutional rule. However, neither Simons, nor his followers, discuss implementation of such a base in the context of political rule-making. As shown in Section 4, this would raise a new set of questions and could lead to quite different conclusions. In fact, writers on ET often display a limited understanding of the political process. The Commission is no exception in this regard:

If equity were not a vital concern taxes would be unnecessary. The state could simply commandeer what is needed. The burden of a reduced private command over goods and services would then be borne by those individuals and families who happen to be within easy reach of the state. (1966, 1, 4)

The argument implies a rather curious view of the constraints faced by democratic governments. One may also ask how a mere concern with equity could effectively limit the actions of a government having the extensive powers implied by the statement. The passage makes clear that the Commission, like others working in the ET tradition, failed to develop an adequate theory of the political process.

c. **Ideal Tax Structure**

Writers on ET are concerned primarily with the creation of a comprehensive tax base. Issues of vertical equity play a subsidiary role. Special provisions, such as exemptions or deductions, are generally seen as deviations from an ideal tax structure that interfere with horizontal equity.

(i) **The Choice of Base**

While Simons' basic definition of income is accepted by most writers on ET as the correct measure of ability to pay taxes, there are some differences in the exact interpretation of the income concept. Following Simons, the Royal Commission states, for example: "We are completely persuaded that taxes should be allocated according to the change in the economic power of individuals and families," (1966, 1, 9). But it makes a further distinction, arguing that taxes should be levied on changes in discretionary economic power. "By discretionary economic power we mean the residual power to command goods and services for personal use after providing the 'necessities' of life and after meeting family obligations and responsibilities," (1966, 1, 5).

If ET is applied in its strictest sense, comprehensive income should be the only tax base and all components of income, regardless of source, should be taxed in the same manner. This implication was pointed out clearly by Simons, who wanted to abolish all other taxes with the exception of the property tax, which in his opinion had already been capitalized, and of gasoline taxes, which according to him could be regarded as benefit taxes. The implication is also accepted by the Royal Commission which argues that, "rigid adherence to our equity principles would call for the complete abolition of all sales taxes," (1966, 1, 8). The Commission refrains from advocating such a course only because it believes that the same purpose could be achieved in a less disruptive and more gradual manner.

(Revenue from sales taxes could be kept at existing levels and combined with a system of tax credits.)

A second important tax conflicting with the ideal of the single comprehensive base is the corporation income tax. Like many ET proponents, the Royal Commission recommends full integration of personal and corporate income taxes. While the government would continue to levy a tax on corporations, it would merely serve as a withholding device since individual taxpayers would receive full credit on their returns for taxes paid on their behalf as stockholders. Integration is combined with full taxation of capital gains either when realized or at death, on the principle that income from all sources should be treated equally.

Proponents of ET reject other bases such as consumption or wealth which could also be used to create a comprehensive single tax as representing inappropriate measures of ability to pay. The Report of the Royal Commission, for example, considers the possibility of taxing consumption rather than comprehensive income. It argues, however, that a change to a system that taxes what is spent rather than what is earned simply changes the pattern of taxes throughout life since most individuals and families spend everything they earn during their lives. (One may note that ET, starting with Simons, rejects the argument that an income tax results in double taxation of savings, on the ground that it is the command over resources that should be taxed. Whether a taxpayer consumes or saves his resources is not considered relevant for the determination of ability to pay.) The result of a consumption tax, according to the Royal Commission, would be an increase in taxation for the young and the old since saving is typically at its peak in middle age. According to the Report, "we do not think this would be an improvement," (1966, 1, 10). It also rejects wealth taxation because such taxation would favor those who have human rather than physical capital and penalize those who save relative to those who consume.

(ii) Rate Structures

Although Simons emphasized equality as one of his basic values, ET does not give explicit guidance on vertical equity. In a situation where rate schedules are required, proponents of ET must go beyond their tradition. This is clearly the case for the Royal Commission which adds its own value judgment by proposing a progressive linear income tax. "We believe that vertical equity is achieved when individuals and families pay taxes that are a constant proportion of their discretionary economic power," (1966, 1,5). While this proposal may appear reasonable to many observers, it has no theoretical basis in the ET tradition.

(iii) Special Provisions

While special provisions are frowned upon as deviations from the ideal base, they nevertheless play a limited role in various ET blueprints. The Report of the Royal Commission recommends a number of such provisions as part of its design of tax structure. Its emphasis on discretionary economic power leads to the use of a basic exemption and tax credits tailored to family responsibilities. Individuals and family units would be subject to different tax schedules. Other special features provide for deduction of expenses to earn income, a limited exemption for gifts, loss offsets, and income averaging.

Some special provisions represent departures from the comprehensive tax base, evidently in the pursuit of other goals. The Commission recommends for example that within limits retirement savings should be deductible. It notes that deductibility without restriction would convert an income tax system into a modified expenditure tax system. While it is not prepared to go this far, it points out that, "the limits we suggest are sufficiently high that low and middle-income individuals and families would be free to choose to be taxed on an income basis or

on an expenditure basis depending upon how much they wished to save for retirement," (1966, 1, 11).

Several other departures from the comprehensive base are related to the taxation of capital and the encouragement of investment. The Commission believes that capital markets are biased against new risky business ventures and wants to use the tax system to offset this bias. It recommends liberal treatment of losses and immediate write-off of capital costs of new businesses up to a specified limit; immediate write-off of exploration and development expenses for mining and oil companies; immediate write-off of research and development expenditures, possibly complemented by subsidies; and tax credits for post-secondary education and training.

ET does not make special allowance for the treatment of capital income. As the Commission's tax design shows, equity goals can be combined with policies to encourage savings and investment. From a theoretical point of view, the main problem arises from the fact that there is no formal analysis dealing with the trade-off between objectives. It is not clear why the suggested departures from the comprehensive tax base do not infringe on horizontal equity. If some infringement is accepted, the question remains whether it represents the right amount or whether a further trade-off would still add to the economic well-being of Canadians.

d. Problems of Implementation

There is an extensive literature on the problems associated with implementing the comprehensive income tax base. The most thoroughgoing examination is again found in the Report by the Royal Commission. Major questions concern whether to base tax liability on nominal or real income, whether to tax capital gains when they accrue or when they are realized and how to treat

income that fluctuates over time. Another question that has occasioned much debate is the definition of the taxpaying unit. All these issues pose the problem of administrative cost and the question of how to determine the desirable trade-off between such costs and the comprehensiveness of the tax base.

Some opponents of the ET tradition have argued that comprehensive income can never be measured adequately since the value of important components such as leisure and government services cannot be estimated at reasonable cost. It is, however, questionable whether any index of ability to pay can ever be measured in a way that is theoretically acceptable. The gap between theory and reality is probably smaller in ET than it is in the other normative traditions.

3. Tax Structure in Optimal Taxation

a. Philosophical and Analytical Foundation

The roots of optimal taxation (OT) can be traced back to the sacrifice doctrines first proposed by classical writers. J.S. Mill argued, for example, that justice in taxation required each taxpayer to suffer an equal sacrifice (Principles, 1817). To this he added that such a solution "is the mode by which least sacrifice is occasioned on the whole," (quoted by Musgrave, 1959, 90). Modern welfare economics, following Edgeworth and Pigou, interprets sacrifice as loss of utility, and advocates equalization of marginal utility as the proper rule for minimizing the aggregate sacrifice caused by taxation. Contemporary OT, following Ramsey (1927) and Diamond and Mirlees (1971) amongst others, also investigates the idea that tax structure should involve the least aggregate sacrifice, but defines sacrifice more broadly as a reduction of social welfare rather than simply as a loss in individual utilities.

The social welfare function used by OT theorists is utilitarian in nature, depending on individual ordinal utilities. But it also incorporates cardinal

distributional weights, being the weighted sum of individual utilities. This permits vertical equity norms to be integrated explicitly into the analysis. Such norms may include the standard vertical equity criteria as well as special cases such as the maximin criterion of John Rawls (1971) (maximize the welfare of the least well-off individual). Although this is done only occasionally, horizontal equity norms may be incorporated into the analysis as constraints on the choice of tax instruments.

In maximizing the social welfare function, OT theorists make several important assumptions about the nature of the economy that constrains the choice of tax structure. First, they assume competitive markets in a general equilibrium setting that includes both production and consumption. The emphasis on general equilibrium makes the OT approach theoretically interesting and mathematically sophisticated. As will become clear below, however, it also imposes large information requirements on OT analysis.

Second, it is assumed that the structure of the economy does not permit the use of lump-sum taxation that would leave relative prices unaffected. The design of tax structure always involves problems of the second-best, therefore, since it is not possible for a social planner to collect a given level of revenues and achieve the specified equity goals without imposing a deadweight loss on society.

Third, government is generally assumed exogenous to the economy, except in the restrictive sense that tax liabilities are influenced by the responses of private agents to a given tax structure. In particular, the level of total revenue to be raised is held fixed in the search for the optimal tax structure. As we shall see, fiscal exchange theorists regard the conclusions of OT with regard to tax design as uninteresting if not misleading for this reason.

b. Main Focus of Analysis

Optimal tax analysis proceeds formally by constrained optimization of a social welfare function. Substantively, the focus of analysis is on the trade-off

between equity goals and the deadweight costs of taxation facing the social planner, given available tax instruments and the influence of these instruments on private behavior.

In the ET tradition, the efficiency costs from pursuit of any equity norm are a secondary concern. But OT, by integrating equity and efficiency goals into a single welfare function, makes the deadweight loss resulting from pursuing any equity goal an explicit part of tax design. This has the virtue of requiring tax designers to be precise about distributional preferences in order to determine the tax structure resulting in the socially optimal equity-efficiency combination. On the other hand, the insistence on an explicit mathematical statement of the social welfare function comes at the expense of social values that are hard to formalize such as freedom and justice; values which nevertheless play a vital role in the formulation of tax policy. Indeed, for Henry Simons, these values were the raison d'être of equity norms (Hettich, 1979; Bradford, 1977).

Precise specification of the general equilibrium structure of the economy is required for OT analysis, since the size of deadweight losses cannot be determined otherwise. Debate in the OT tradition therefore emphasizes analysis of key parameters influencing private sector responses to taxation, such as the size of various income and substitution effects, in addition to concerns over the nature of distributional weights in the social welfare function.

c. **Ideal Structure**

When private behavior is not considered in a life-cycle context, the factors on which the optimal tax structure depends include (i) the precise nature of distributional weights in the social welfare function; (ii) income and substitution effects of all agents in the economy; (iii) the distribution of skills and endowments; (iv) the production technologies of society; and (v) the revenue

requirement. If private behavior is considered in a life-cycle context, additional factors of importance include (vi) the social rate of time preference; (vii) private rates of time preference; and (viii) the dynamics of interpersonal inequality (e.g., the nature of wealth transmission). The ideal structure further depends on the complex interaction of private agents in a general equilibrium setting. Optimal tax analysis is obviously an intellectual "tour de force."

(i) Choice of Bases

In the main body of OT theory as currently formulated there are no tax administration costs. As a result, there is no reason why the activity of each type of agent cannot be taxed at a unique rate.

As noted earlier, lump-sum taxation which leaves relative prices (or relative after-tax returns to alternative activities) unaltered is considered to be infeasible. This is because those characteristics of taxpayers which cannot be adjusted by them in response to taxation, such as innate ability, are not known costlessly to the government, or cannot be taxed for social or political reasons. Government can therefore tax only surrogate characteristics such as labour income which are to some extent under the control of the taxpayer.

In order to minimize deadweight losses, OT theory favours the taxation of certain types of activity or commodities. Activities or commodities for which substitution effects are the smallest ought to be taxed more heavily, ceteris paribus, since larger substitution effects in response to tax increases produce larger deadweight losses (the inverse elasticity rule). Where income effects are the main response of activity to taxation, tax rates ought to be relatively high since income effects are analogous to the changes that would be caused by lump-sum taxes.

Precise rules for OT tax structures are almost as complicated as the underlying economic structure. On a less formal level, the idea that tax structure ought to minimize deadweight losses for given distributional goals has led to a presumption in favour of taxing consumption rather than income to avoid distortion in the intertemporal allocation of resources, and to a presumption in favour of broad-based taxes in order to avoid inducing substitution between activities that are taxed at different rates. There is also a presumption in favour of taxation by higher rather than lower levels of government to reduce elasticities of taxable activity with respect to tax rates.

These presumptions or rules of thumb are not based on a formal analysis of the OT problem. They are, rather, general statements about the nature of more efficient tax structures than exist currently, using intuition based on first-best welfare economics. As Boskin and Stiglitz (1977) and many others have noted, however, the argument that fewer rather than more distortions are better is correct only under certain conditions. In the face of second-best situations, the use of first-best welfare economics may be seriously misleading. A detailed analysis incorporating other distortions in the economy is often necessary. For example, the presumption that a consumption tax is superior to an income tax is not strictly correct when the utility function is not separable in leisure and goods (Atkinson and Stiglitz, 1976). King (1980) has also shown that optimal policy may penalize saving, depending on the responsiveness of present and future consumption and of labour supply to the compensation of labour.

Nevertheless, the "Meade Report" (IFS, 1978) has recently endorsed a progressive expenditure tax for the United Kingdom on the grounds that it "combines encouragement of enterprise with the taxation of high levels of personal consumption," (IFS, 1978, 518). The "Blueprints" proposal of the U.S. Treasury Department (1977) also favours a consumption tax, partly because such a tax is not

as biased against saving and investment as the income tax. And while no formal OT analysis is included in these reports, it would appear that a concern for minimizing the efficiency cost of taxation has been a strong motivating factor in their conclusions.

The consumption tax is also advocated by these reports as a means of reducing the administrative cost of taxing real income in an inflationary environment. Much of the cost of inflation accounting stems from the problems of adjusting nominal income from capital (see for example, IFS, chp. 6), and this would obviously no longer be a problem with a consumption tax. (This sort of concern with administration cost is not incompatible with the ET tradition, but it is unlikely that Simons would have opted for the same solution to the problem of inflation accounting as have OT analysts. It is more likely that he would have regarded the administrative cost of indexing capital-income as the necessary price of maintaining a good tax system.) Discussion of the administration cost of taxation suggests that such costs ought to play a role in the formal design of blueprints. But the cost of administering taxation is, at best, dealt with in the literature only informally.

(ii) Rate Structure

In the absence of administration cost there is no reason in formal OT theory to have rates for groups of taxpayers rather than separate rates for all economic agents. However, if attention is restricted to income tax structures and positive weight is given to vertical equity in the welfare function, the following general conclusions have emerged in the OT literature (e.g., Tresch, 1981; Slemrod, 1983): (i) average tax rates should initially rise with income for distributional reasons; (ii) marginal rates should peak "well below" 100% to avoid severe disincentive effects (the Meade Report, 1978, p. 316, suggests 70% as the top marginal rate for the U.K.); and (iii) the marginal rate structure is generally

indeterminate, depending on factors such as the degree of risk aversion, substitution effects and distributional weights. However, a pattern of constantly rising marginal rates as we experience currently is not characteristic of OT rate structures for income. Some research suggests rate structures should have the lowest marginal rates on the highest and the lowest incomes, to stimulate work effort (e.g., Sadka, 1976). This is the humpshaped marginal rate pattern recommended in the Meade Report (1978, P.316), though other authors have been much less willing to guess the appropriate rate schedule. Slemrod (1983, 367), for example, has argued that:

Given our current state of understanding of the behavioral response to taxation, it is even possible that today's (U.S.) income tax rate schedule is close to optimal as it stands.

One aspect of OT rate structures that is clear concerns horizontal equity as defined in ET. OT theory does not support the equal tax treatment of individuals with the same comprehensive incomes. As Phelps (1977, 658) has put it, "this canon may be in Aristotle, but it is not in economics." An efficient tax system, whatever its tilt between rich and poor, cannot overlook opportunities to discriminate among taxpayers on the basis of their ability to avoid taxation, even if they should have identical pre-tax incomes. OT and ET appear to diverge sharply on this issue.

This divergence concerning horizontal equity has been qualified somewhat by Feldstein (1976b). In a general equilibrium context, any favored tax treatment of particular income-producing activities generates incentives for additional resources to move into these activities. In the long-run, horizontal equity in the ET sense is a characteristic of competitive markets, provided that there are no long-run constraints on economic adjustment. Of course, long-run constraints on the nature of economic activity are the core of second-best problems in OT theory.

And there is no necessary reason why we ought to assume the complete absence of constraints on changing one's sources of income.

(iii) Special Provisions

The OT literature has not been as concerned with special provisions as ET. This may simply be the result of a lack of detail in the OT problems considered to date. The conventional wisdom that special provisions are undesirable because they distort relative prices and create undesired vertical inequities is unconvincing if the OT problem allows for sufficient variation in the characteristics of taxpayers. Boskin and Stiglitz (1977), for example, demonstrate the optimality of tax deductions for medical expenses. The existence of this deduction in their OT structure stems from the basic screening problem in OT analysis of taxing individual characteristics which are most closely correlated with the arguments in the social welfare function when these characteristics cannot be observed directly, and when the surrogate characteristics that can be taxed are imperfectly correlated with the characteristics of direct interest and are to some extent under the control of the taxpayer.

In making the case for a medical deduction, Boskin and Stiglitz consider an economy in which utility depends on income net of required expenditures on health, but in which only actual health expenditures by taxpayers can be observed easily by the authorities. In this context, a partial tax deduction for actual medical expenses can be viewed as a form of partial insurance for required medical expenses. As such, it reduces tax liabilities the most where medical needs are the greatest, so that taxation is more closely related to "enjoyable consumption." At the same time, the partial nature of the deduction (as compared say to a full tax credit) prevents individuals from demanding health services up to the point of

satiation, which would be strongly distortionary given the high marginal cost of producing medical services.

d. Problems of Implementation

It is clear that the information requirements of OT theory are very large. For a complete analysis, it is necessary to trace the efficiency and distributional effects of a tax change through a complex economy consisting of a complicated network of markets, productive relationships and activities, and including many kinds of market imperfections. As noted earlier, in theory every distinct transaction should be taxed at a separate rate which takes into account all relevant direct and indirect effects on efficiency and distribution.

As the Meade Report notes (p. 27), such discrimination is not feasible in practice:

All that can be hoped is to take account of a few of the most obvious and most probable direct and indirect effects of any given tax change.

The Meade Report, like Atkinson and Stiglitz (1980, 423, 546), regards the results of OT theory as qualitative rather than quantitative, and as an important guide to tax design rather than as a practical basis for tax reform. In this vein, it is often argued that the principal virtue of OT is its ability to single out key parameters for the analysis of tax design such as, for example, the relevant distributional weights, and the size of particular substitution effects.

The Meade Report goes on to point out that there are important differences of emphasis in the search for feasible, OT-based tax reforms. One approach is to search for new and better information regarding responses to taxation and use this information to make possible more tax discrimination so as to take account of more of the various general equilibrium effects of taxes on efficiency and

distribution. The applied general-equilibrium tax modelling pioneered by Shoven and Whalley (1973, 1977) and others (reviewed by Shoven, 1983) represents perhaps the best hope yet for this sort of refinement. These models have already been used to compute the efficiency gains (compensating variations) from reforms such as institution of a full or partial personal consumption tax coupled with integration of corporate and personal taxes (Fullerton, Shoven and Whalley, 1983). They have also been used to compute the general equilibrium efficiency cost per marginal dollar raised for each of the major taxes in the U.S. tax system (Ballard, Shoven and Whalley, 1982). The marginal efficiency costs for the U.S. system as a whole turn out to vary from 52 to 76 cents per dollar of additional tax revenue, depending on how government transfers are treated in the simulations (Shoven 1983, 416). This finding suggests strongly that the efficiency costs of taxation cannot be ignored.

While these models promise a breakthrough in the ability to design more efficient tax systems in the future, they are, however, still highly simplified representations of the economy. Furthermore, they have not yet been tested by the usual standard of a model's ability to track ex post history and still make use of many key parameters that are determined in the course of model calibration to a benchmark set of data rather than by econometric estimation. Finally, they lack an explicit treatment of government behavior. In short, the information provided by these models is still essentially qualitative in nature.

An interesting problem for work on "further refinement" arises from the idea, argued by Feldstein (1976b) and others, that market forces will always work to undo the effects of discrimination among different types of economic activity. As noted earlier, favoured treatment of certain types of activity may be "arbitraged out" by the market and if so will not be a source of effective tax discrimination. Some OT theorists have explicitly tried to acknowledge this problem by introducing self-selection constraints on the choice of tax structures (e.g., Balcer and Sadka,

1983). The tendency of markets to capitalize tax differentials across types of activity suggests that imposition of an optimal tax structure will involve a constant struggle between tax planners and the market. It also suggests the need for flexibility on the part of tax authorities in order to cope with unforeseen responses by taxpayers.

A second approach to the problems of defining feasible OT reforms has been taken by the Meade Report (1978, 44):

...to base a tax structure on the principle of considering each rate of tax on each specific type of transaction separately is to invite distortions through the influence of pressure groups of particular interests, each obtaining some specific exemption or other advantage until the whole structure becomes a shambles of irrational special provisions. A complex system which was devised and administered by a committee of wise philosopher kings, advised by a group of omniscient economists and subject to no democratic pressures from well organized special interests, might be preferable to any one more simple system which was debarred from making many specific and detailed provisions and exceptions which would in fact be improvements. But the latter would also be debarred from making many undesirable special provisions, and in the world as it is the acceptance of a simple system based on one or two easily understood, clear rules (provided, of course, that they were well chosen rules) would almost certainly be preferable. There will, of course, inevitably be some special exceptions and exemptions; but it is desirable to start from some simple, reasonable, clearly understood general set of rules, from which only a limited number of very special exceptions are permitted.

The line of argument leading to the granting of more flexibility for tax authorities is clearly rejected here, for reasons strikingly similar to those put forward by Simons, and, as we shall see, for reasons which are compatible with normative fiscal exchange.

It is interesting to note that one recent branch of OT theory stemming from application of the time-inconsistency literature (Kydland and Prescott, 1977) also suggests the desirability of simple constitutional rules over discretionary taxing

power for the government. The idea here (e.g., Fisher, 1980; Kydland and Prescott, 1980; Sheffrin, 1983) stems from the view that government policy will not normally be time-consistent. Tax policies which are optimal for the government at one point in time are generally not optimal at points in the future. For example, in a dynamic context an efficient policy involves taxation of both labour and capital in all periods, in accordance with their supply elasticities and other relevant factors. However, once the policy has been announced and carried out for one period, it is efficient for the government from the perspective of the second period to tax only capital since a tax on fixed capital bequeathed from the previous period involves no efficiency loss.

Time-inconsistent tax policies of this sort are undesirable because a history of broken promises will destroy the belief of private investors in the government's statements, causing private saving and investment to dry up and aggregate welfare to be reduced sharply along with the capital stock. Policy based on rules rather than discretion may represent a way of preventing such time-inconsistent and inefficient government behavior. However, arguments for implementation of rules must be based on careful analysis of the political context in which they will operate. It will become apparent in the following section that introduction of rules, such as those referred to in the Meade Report, may require a quasi-constitutional reform of the political system. Moreover, the logical steps leading to this conclusion may also lead one to reject the types of tax rules most favored by OT analysis.

4. Tax Structure in Normative Fiscal Exchange

a. Philosophical and Analytical Foundation

The fiscal exchange approach to taxation (FE) derives primarily from Wicksell's voluntary-exchange theory of the public economy (Wicksell, 1896) and

from the contemporary work in this tradition by James Buchanan (1976) and Geoffrey Brennan and James Buchanan (1980).

The philosophical roots of this work lie in writings from the 18th and 19th centuries on the appropriate structure of representative government. The central problem addressed in the early literature was how to design institutions of government responsive to the electorate while insuring at the same time that electoral processes did not lead to exploitation of minorities by organized interest groups.

In the most recent addition to the fiscal exchange literature, The Power to Tax (1980), Brennan and Buchanan pose the question: Should the government's power to tax be limited and what form should this limitation take? Their approach provides a marked contrast to the ET and OT traditions, which ask: What is the best way to raise a budget of given size? The earlier fiscal exchange literature (e.g., Wicksell, 1896; Lindahl, 1928; Buchanan, 1976) focused on electoral processes rather than on direct constraints on the power of government. Here the question simply was: What electoral process is most desirable?

Since the central problem in the Brennan/Buchanan version of FE theory- what we shall call the outcome-oriented approach- concerns the possibility of malevolent government behavior, a model of such behavior is essential to their analysis. Analysis of malevolent behavior is crucial because, as J.S. Mill put it in his Considerations on Representative Government:

The very principle of constitutional government requires it to be assumed that political power will be abused to promote the particular purposes of the holder; not because it always is so, but because such is the natural tendency of things, to guard against which is the special use of free institutions.

(Quoted by Brennan, 1981, 135.)

It is for this reason that Brennan and Buchanan start with the view that the state is a Leviathan attempting to maximize its extractions from the citizens. In other words, they take a minimax approach to the design of social institutions in order to limit the possibility of excessive government authority.

While one may object to the specific model chosen by Brennan and Buchanan, one can readily accept their insistence on the need for a model of the state. They make their point rather amusingly by discussing the best policy for restraining their dog, which likes to run onto an adjoining property:

It is costly to build a fence or to purchase a chain. It is possible to prove that the no-fence, no-chain solution is more efficient than either, provided that we model the behavior of our dog in such a way that he respects the boundaries of our property. As we put this example from personal experience, the exercise seems, and is, absurd. But is it really very different from that procedure which argues that tax structure X is more 'efficient' than tax structure Y provided that we model the behavior of government in such a way that it seeks only to further efficiency in revenue collection? (1980, 193)

b. Main Focus of Analysis

In the Power to Tax, the focus of analysis is on constitutional constraints designed to limit Leviathan-like tendencies of government. Restrictions on the power to tax must be constitutional because Leviathan will never give up powers granted previously unless it is forced through constitutional revision to do so. Tax design is therefore a question of constitutional design, and tax reform is presumably a matter for constituent assemblies or other groups of taxpayers, but not a matter for government itself. If it is carried out in the regular political context, it becomes a negative sum game where "tax reform advocacy largely takes on the pattern of mutually offsetting attempts to shift tax shares among groups." Brennan and Buchanan ask formally what tax structure would be favoured

at the constitutional level by a risk-averse taxpayer who decides behind the Rawlsian "veil of ignorance" or in a situation with limited information on his own future economic circumstances.

The concern in the early work of Wicksell (and Buchanan, 1976) is predominantly with the ability of special interest groups to use majority rule in order to redistribute income in their favour. The focus of analysis is therefore on the choice among feasible electoral processes and not on specific limits on outcomes. Wicksell envisioned a process in which expenditures and taxes were voted on simultaneously and where public budgets were chosen in accordance with "approximate" unanimity. Such a process minimizes coercion and produces outcomes approaching Lindahl equilibrium—an equilibrium that is Pareto-efficient and that will receive unanimous support. This version of the FE tradition is not concerned with the correct degree of equity and efficiency in tax structure. The desirable political process will, in this view, create whatever trade-off is appropriate in the circumstances.

While quantification of outcomes is not important in the process-oriented FE tradition, guidance may still be needed on how to choose empirically among alternative feasible social choice rules each of which contains some element of the optimal political process. Process-oriented FE does not offer such guidance. Brennan and Buchanan fall short in a different manner. They fail to provide a way to measure Leviathan's monopoly power, although such measurement is clearly relevant to the choice among alternative feasible tax structures in their version of FE. How the social cost of inflexible constraints on public sector outcomes is to be included in their analysis is also left open. As we shall argue later, these are serious shortcomings of the FE tradition, especially in a partial reform context.

c. **Ideal Tax Structure**

The process-oriented FE tradition is not concerned with structural features of the tax system per se. As Buchanan (1976, 29) notes, the exchange-contractarian finds relatively little to disturb him in the presence of tax loopholes if he conceives these to reflect plausible outcomes of an acceptable political bargaining process. Thus the following discussion of ideal tax structure refers only to the outcome-oriented FE analysis initiated by Brennan and Buchanan.

(i) **The Choice of Bases**

The problem is to choose bases and rate structures that limit Leviathan to a desirable level of total tax revenues. Analytically, assignment of a tax base to the government is equivalent to the assignment of an exclusive franchise for the sale of the output from the taxable economic activity. Since Leviathan will levy the profit or revenue-maximizing rate structure on every available base, adding bases simply increases the total deadweight loss and increases the size of government. Narrowly defined bases restrict Leviathan's power, the size of total revenues and deadweight losses. This conclusion is in direct contrast to OT, which holds that broader bases are superior since, given total revenue, broadly based taxes distort relative prices to a lesser extent.

Brennan and Buchanan are also led to advocate abolition of capital taxation, since fixed capital cannot escape Leviathan's grasp. Bases such as labour income or consumption, which are more elastic, are more suitable because they allow taxpayers to escape more easily. In outcome-oriented FE, therefore, large economic responses to increases in tax rates may be the desirable result of a correctly designed tax structure.

Constitutional limitations on the nature of bases which Leviathan can exploit are also useful in insuring that the level and type of public services provided are in

accordance with the wishes of the electorate. If it is possible to assign tax bases that are strongly complementary with particular public goods, there will be an incentive for Leviathan to wield its power for the "common good." For example, a constitutional provision requiring that roads be financed exclusively by taxes levied on automobiles and associated inputs (gas, oil, tires, etc.) will encourage Leviathan to spend a large part of its revenues on road construction and maintenance. This is because automobile tax revenues will grow with the "supply" of automobile usage, while this supply, in turn, is a positive function of the size and quality of road networks.

In the federal context, the FE approach indicates that bases ought to be assigned to different jurisdictions so that revenues match expenditure responsibilities. Grants which arise from an imbalance between revenues from own sources and expenditures should be avoided. This is because contractual relationships among governments, such as intergovernmental grants, may diminish competition among governmental units, while a federal system in which different governments compete for residents and their tax dollars represents a means of reducing the power of government in general vis à vis the citizen (West and Winer, 1980). It also follows that the most elastic bases ought to be assigned to the lowest level of government. This allows escape from taxation to the greatest extent possible by lowering migration costs. Inter-jurisdictional tax harmonization may also restrict the power to tax by preventing discrimination in a regionally heterogeneous country, if tax harmonization is constitutionally mandated. However, intergovernmental tax arrangements imposed by the central government or by a coalition of provinces may also be used to limit governmental competition, and may be undesirable for this reason (Bélanger, 1981).

The assignment of more elastic bases to jurisdictions at the lower level will involve larger deadweight losses in the federal state as a whole, given the total

size of government. It is therefore inconsistent with OT. It should be noted here that Brennan and Buchanan would argue that the scale of total government and therefore the total size of deadweight losses would be considerably less with the constitutionally optimal federal tax structure than with a federal tax structure based on OT principles.

(ii) Rate Structure

The maximum revenue from any base assigned to Leviathan can only be collected if income tax schedules are regressive. This is analogous to the statement that a perfectly discriminating monopolist maximizes profit by charging prices that decline at the margin. Thus progressive or proportional rate structures will limit the size of government. So will rate structures which embody horizontal equity norms that prevent different taxpayers from being taxed according to different effective rate schedules. Such norms operate in an analogous manner to limitations on a monopolist preventing him from charging higher prices where demand is less elastic.

It is interesting to note that in the work of Brennan and Buchanan, OT prescriptions become rules for maximum revenue extraction. The "multiplant" Leviathan will maximize revenues by levying higher tax rates on those bases which are less elastic with respect to changes in tax rates. Hence, the inverse elasticity rule of OT becomes a revenue-maximizing rule in the context of FE—a rule that also maximizes deadweight losses which are a positive function of the size of government (Brennan and Buchanan, 80-81). As Brennan and Buchanan note, "a change in the political model may stand many of the orthodox precepts for tax change on their heads" (1980, 194).

(iii) Special Provisions

Whether tax loopholes are good or bad depends on whether they are opened up

at the constitutional stage or at a later time. The individual will seek deliberately to build certain "escape routes" into the tax structure at the constitutional stage. These provide the protection or guarantees against undue fiscal exploitation that he wants the constitution to embody. Post-constitutionally, loopholes are bad assuming that they represent attempts by Leviathan to discriminate among heterogeneous taxpayers. A combination of high nominal tax rates and extensive special provisions could yield maximum revenue to the state. Presumably, the constitutional convention is to decide which loopholes are good constitutional restrictions, and which represent tax discrimination.

d. Particular Problems in Implementation

Neither process-oriented nor outcome-oriented FE offers advice to existing governments. Advice is offered to those citizens attempting to institute constitutional limitations on the power to tax. Implementation therefore requires the organization of constitutional conventions or initiatives. Furthermore, information must be developed that helps convention participants to make appropriate choices, including knowledge of the problems of enforcement that may arise from different legal limitations on the government. This information must be sufficient to permit decision-making behind the Rawlsian veil of ignorance, a problem emphasized by Hamlin (1984). In this respect, process control emphasized by Wicksell may be preferable to direct or indirect control of outcomes. The information required to undertake the appraisal of alternative processes consists of the characteristics of the various processes, the values of the members of the constituent assembly, and a description of imaginable issues. But constitutional reform directed at outlawing bad outcomes or encouraging good ones also requires that individuals be able to classify outcomes as good or bad in all possible states of

the world. Otherwise, outcomes cannot be restricted to a set which dominates all alternatives in all states of the world. Given the likely degree of uncertainty about the future, this set may be very small, and indeed, may be empty (Hamlin 1984, 180).

The fact that the cost of organizing large groups is substantial, whether for the purpose of limiting taxes or for other reasons, means that constitutional tax reform will probably occur only infrequently. Furthermore, complete revisions of existing institutions are unlikely. Recent history demonstrates, however, that special constitutional restrictions may result from constitutional initiatives and other similar attempts to alter the legal framework of government. As the next section shows, such partial changes raise a whole set of further questions for normative analysis.

5. Partial Tax Reform

The normative approaches to taxation are concerned primarily with the formulation of ideal tax systems. Authors working in these traditions attempt to design tax structures that fully satisfy the chosen normative criteria. When turning to tax reform, they have a tendency to call for complete redesign of existing arrangements, i.e., for implementation of an optimal blueprint. The work of the Royal Commission provides an instructive example of this tendency. It tried to design a complete, internally consistent tax system for the Canadian federal government and warned repeatedly that selective adoption of the recommendations would not have the desired results. The history of tax reform following the Commission's Report, as well as the history of reform attempts in other countries, makes it clear, however, that blueprints are modified or changed—sometimes beyond recognition—by the democratic political process. Advocacy of specific

measures or of partial reform may therefore be a more realistic approach to changing the tax system than insistence on the ideal blueprint.

Some authors, realizing the problem, use blueprints merely as a guide to recommend partial improvements. Such a course has its own logical difficulties, however. As Feldstein has pointed out in his excellent article on tax reform, "everything we know about the theory of economic policy in other areas reminds us that optimal piecemeal policies cannot be made by haphazard steps in the direction of the global optimum..." (1976b, 77).

While the literature on blueprints is large, the literature on systematic partial reform is very limited. Hettich (1979b, 1983) provides an analysis of partial reform in the ET tradition, while Zodrow (1981, 1984), building on a suggestion by Feldstein, develops an analysis based on OT. While no similar work has been carried out in the fiscal exchange tradition, some comments by Brennan and Buchanan offer a starting point for the discussion of partial improvements according to this perspective. The following pages give a brief overview of the available work.

As discussed earlier, ET places the focus on defining a "correct" tax base and on changing the existing base to conform to it. It is common practice for writers who advocate partial reform to take a particular deviation from the ideal base, to call it a "loophole," and to argue that it should be eliminated in order to improve horizontal equity. This disregards two important questions. First, it is not clear without further analysis that every extension of the existing base that moves it closer to a comprehensive base will necessarily increase the degree of horizontal equity achieved by the tax system. Second, one may ask concerning those changes that do improve equity whether they are the best changes to undertake. If greater horizontal equity is the goal but resources available to bring about reform are limited, a more complete analysis would require us to rank possible improvements

in accordance with effectiveness and to advocate those that result in the most marked improvement in overall equity.

Hettich (1979b) has suggested an index according to which partial reforms can be ranked. It takes the form

$$I = \frac{1}{n} \sum_{i=1}^n (t^i - g^i)^2$$

where n is the number of taxpayers and i refers to the i th taxpayer. The symbols t and g refer to tax payments made respectively with a noncomprehensive and a comprehensive tax base. Comparisons are subject to a revenue constraint, specifying that total revenue raised with each type of base must be equal. Lower values of the index are preferred to higher ones—complete horizontal equity is achieved if I equals zero. In his later work (1983), Hettich uses a simpler formulation of the index without changing the general results of the analysis.

There are several conclusions significant for an ET-based analysis of partial reforms of the tax base.

1. To compare the degree of horizontal equity attached to different noncomprehensive tax bases, one must formalize the equity judgment into a quantifiable index. Value judgments developed for ideal situations may not give unambiguous guidance on how to formalize corresponding judgments for imperfect situations.
2. The logic underlying ET suggests an index based on deviations from ideal tax payments. In order to define ideal tax payments, explicit judgments must be made on both horizontal and vertical equity.
3. Since ET does not determine vertical equity, decision-makers may disagree on what constitutes ideal tax payments even though they are in full agreement regarding horizontal equity.

4. Some changes in the existing tax base moving it closer to a comprehensive one may lower the degree of horizontal equity.
5. Decision makers who agree on horizontal equity but differ on vertical equity may reach different conclusions on whether a particular change in the existing base increases equity and may arrive at different rankings of changes that do improve equity.
6. The evaluation of possible changes cannot be made for the income tax alone as long as there are other taxes in the system. Actual and ideal tax payments must reflect total tax liabilities, not merely income tax liabilities.
7. In principle, calculation of hypothetical tax liabilities should take account of economic adjustments that may be expected if the tax base is altered. While this may complicate empirical analysis of partial tax reform, it does not affect the general conclusion of the analysis.

It may be useful at this point to comment briefly on the literature on "tax expenditures" which has its source in the ET tradition. Writers on tax expenditures argue that deviations from a comprehensive base should occur only if the government cannot achieve the same policy purpose with an appropriately designed subsidy. In fact, all such deviations are viewed as implicit subsidies through the tax system.

The discussion of tax expenditures rests on weak theoretical foundations. It adopts rather uncritically the concepts of a comprehensively defined base, without however inquiring into the normative justification behind it. The confusion is apparent in the argument for a comprehensive corporate tax base made by proponents of this approach. As pointed out in Section 2, the logic behind ET points to a single base, measuring flows of personal income. The implication

therefore is not for a comprehensively defined corporate base but for integration of corporate and individual income taxes.

Since the literature on tax expenditures does not develop an explicit normative framework of its own, it is difficult to analyze it in the context of partial reform. If it is argued that fewer "loopholes" make taxation more equitable, and if the goal is horizontal equity, one can merely apply the analysis of partial reform developed for ET. If proponents of this literature want to claim more, however, or if they have different policy goals in mind, an internally consistent normative analysis will be required before improvements can be evaluated in terms of explicit criteria.

Unlike writers in the ET tradition, OT theorists are concerned with special provisions not primarily because of equity, but rather because of the incentives for private economic agents that such provisions create. The difference in emphasis is related to a different view of the role and influence of markets. Writers on OT generally assume perfectly functioning markets, while ET authors do not. In a highly competitive environment, any favored tax treatment of a particular economic activity will quickly be capitalized. While special treatment initially raises after-tax returns, new entry into the favored activity will rapidly drive the after-tax rate of return down to the level normal for the economy. Those holding property rights in the favored activity before the special tax treatment is introduced (assuming the change was not anticipated) will realize capital gains. Later elimination of favored treatment would impose capital losses on them as well as on the new entrants into the activity. (If we adopt a broader perspective, gains and losses may also occur in other related activities).

Partial reform raises the general question: Assume you have identified a blueprint, but you must start from the existing tax system when implementing any changes, would it still be desirable to put the same blueprint in place? In the OT

tradition, Zodrow has shown that the answer is no if we take account of the capital gains and losses that the movement toward the optimum would entail and weigh the distributional consequences of these induced gains and losses.

In a forthcoming paper, Zodrow (1984) proposes an index to evaluate partial reforms which in some ways parallels Hettich's index. All decision makers use the same mathematical form of the welfare function, but they may differ on the choice of two parameters, one setting overall distributional preferences and the other determining specific preferences toward induced capital gains and losses. Given Zodrow's framework, the first parameter can be identified with vertical equity, while the second one relates to horizontal equity. Horizontal equity here refers to a state in which individuals with the same pre-tax social utility have the same (perhaps lower) level of after-tax social utility. This of course differs from ET which emphasizes equality of pre- and post-tax comprehensive incomes. Since decision makers can diverge with regard to both parameters, there is even more room for disagreement than in Hettich's analysis where differences are limited to a tax parameter determining vertical equity. In the OT framework, decision makers concerned with partial reform may differ on what constitutes the best tax base, on how far to move toward a particular optimal base and on both of these issues.

Zodrow argues that OT implies the desirability of partial reform even if implementation of the blueprint were possible, while in ET, partial reform occurs only because exogenous constraints prevent achievement of the comprehensive tax base. The difference is probably of minor importance since exogenous constraints are likely to determine what is feasible for both the OT and the ET policy maker. In fact, while the two approaches are based on different assumptions and lead to differing conclusions, they both focus attention on a common set of major issues requiring further analysis.

First, both approaches require formalization and quantification of value judgments. In both cases, logical choices require empirical measurement. A second issue concerns the capitalization of loopholes. The speed at which and the degree to which special tax provisions are capitalized has important implications for both approaches. If there is rapid and complete capitalization, the emphasis of ET theorists may be misplaced. (It would of course still be possible to argue for the comprehensive base as a semi-constitutional rule.) On the other hand, slow and imperfect capitalization would require adjustments in the OT approach.

An important third issue raised by both types of analyses deals with the possibility for consensus. While it is interesting to ask how a particular decision maker can arrive at consistent choices and how consistent choices of persons holding different value judgments may conflict, it is equally necessary to analyze the possibility for consensus. Public decision makers are interested as much in agreement as in narrow consistency. Hettich (1979b) makes some attempt to deal with this issue although he does not develop a formal social choice analysis. The issue has not yet been addressed for partial tax reform from the OT perspective. Finally, we have as yet no systematic analysis of agreement and disagreement between the two traditions concerning a specific set of feasible policy changes.

Although different in approach from ET and OT, normative fiscal exchange theory still faces the same underlying questions in judging partial reform attempts. Unless there is an explicit way of measuring improvements (net of the social cost of imposing inflexible constraints on public authority), it is difficult to know whether partial policies are indeed desirable and what such policies are the best among possible alternatives. Brennan and Buchanan argue that "in a broadly defined perspective...our whole analysis may be interpreted as providing positive argument in support of almost any one of the currently discussed proposals for constitutional fiscal limits" (1980, 204). However, they do not propose any

methodology for measurement of Leviathan's power or even specify clearly what ought to be measured. They are aware that partial constitutional restrictions can redirect the activities of Leviathan, but seem to feel that more is gained than lost in the process. Work by Hettich and Winer (1984b) shows, however, that the general equilibrium effects can be far-reaching, spreading throughout the whole tax system and affecting most aspects of tax structure. Unless the goals are clearly defined, and defined in such a way that trade-offs among them can be evaluated, it is difficult to assess whether the new equilibrium structure of the public sector is indeed preferable. While some analysts may be willing to argue that situations with a smaller public sector are always better than situations with a larger one, most observers will be reluctant to accept the size of public budgets as a unique measuring rod.

Feldstein's dictum that "optimal piecemeal policies cannot be made by haphazard steps in the direction of the optimum" thus applies to all three normative approaches to taxation. The problem is inherent in normative analysis itself and cannot be sidestepped if such analysis is attempted in a partial setting. A redirection of effort from focusing on blueprints to analyzing pathways toward their implementation may well be in order.

6. Differences Among Normative Theories of Taxation

a. Implications for Design and Reform of Tax Systems

The broad differences among the three approaches apparent in the proceeding discussion are summarized in Table 1, which makes the extent of disagreement concerning ideal tax structure clear. Depending on the starting point, a single broad base (ET, OT) or multiple narrowly defined bases (FE) are preferred. The two traditions arguing for a single base disagree on its definition, with ET arguing for income and OT mainly for consumption. OT rules for other bases (which may

TABLE 6-1

Tax Structure in the Three Normative Approaches to Taxation

Normative Approach	Bases	Elements of Tax Structure	Rate Structures
		Special Provisions	
ET	Broad and single base, consisting of comprehensive income. Implies equal treatment of income from any source, including capital. Integration of personal and corporate taxes, no indirect taxes.	None in principle. Personal exemptions if taxable income defined as discretionary income. Measurement problems may require special provisions such as income averaging.	Horizontal equity: same rate for same comprehensive income. Vertical equity: Indeterminate (left to "political process").
Formal Analysis			
Each transaction taxed at unique rate, depending on its weight in the social welfare function and the general equilibrium structure of the economy.			
		Informal Analysis (Rules of Thumb)	
OT	Single base: Broad personal consumption tax, possibly with flow of funds corporate income tax. Reduce emphasis on capital taxation. Other bases: (e.g., commodity sales or income) if government restricted to these bases. Rely more heavily on more inelastic bases.	No general rules, but favored examples, e.g., immediate expensing of investment. Complex structure of exemptions, deductions, credits may result from interaction of particular policy objectives and screening problems if income tax used.	Hump-shaped marginal rate structure.
FE	Narrow, multiple bases, preferably elastic with regard to rates, e.g., restricted or selective income tax and reduced emphasis on taxation of capital.	At constitutional level: Exclude inelastic portion of bases.	Non-regressive. Use equity rules to limit tax discrimination.

be necessary for reasons determined outside the OT model) conflict strongly with similar rules derived from FE. While OT suggests heavier reliance on bases that are relatively inelastic with regard to changes in tax rates, FE recommends that the taxation of such bases should be constitutionally restricted.

The disagreement also extends to the choice of special provisions. While ET argues strongly against the existence of most such provisions, FE makes their use part of its strategy to limit the power of the state. Recommendations derived from OT are less clear-cut. Depending on the government's objectives, the restrictions placed upon it and the screening problems faced by it, exemptions, deductions, and tax credits may be appropriate elements of a good tax system.

Proposed rate structures are also at variance. OT suggests a hump-shaped progression of marginal rates together with initially rising average rates for a broad personal consumption tax. FE also argues for progressive or proportional taxation, to counter Leviathan's taste for discrimination and therefore regressivity. ET leaves vertical equity indeterminate but insists that persons with the same comprehensive income must pay the same amount of tax, regardless of the sources from which their incomes are drawn, an argument that runs counter to the recommendations of both OT and FE.

Table 2 summarizes the different problems of blueprint implementation emphasized by the three traditions. Writers on ET have devoted most of their effort to problems of measuring comprehensive income. The question of whether to tax real or nominal income and realized or unrealized gains is a major concern. Other questions relate to the definition of the taxpaying unit and the treatment of fluctuating income. One should note that among the three traditions ET has been most closely linked to actual tax policy. The reason may lie in part in the greater age of the ET approach, but it is probably also due to Henry Simons' decision to

TABLE 6-2

Problems of Implementation Emphasized by

Three Normative Traditions

Traditions	Problems
ET	Measurement of comprehensive income. Realized vs. unrealized gains and losses. Real vs. nominal income. Definition of tax paying unit. Treatment of fluctuating income.
OT	Information intensity of formal theory. Information on behavioral responses of all agents required. General equilibrium structure of economy (general equilibrium effects, given behavioral characteristics of each agent). Screening problems.
FE	Organizing constitutional convention. Decision making behind Rawlsian veil. How to make constitutional restrictions enforceable.

exclude the concept of utility from the analysis and to base all arguments on measurable dollar quantities.

While writers on OT take pride in the greater generality of their arguments, they must face the cost of much more extensive information requirements. In principle, information is needed on the general equilibrium structure of the economy as well as on the behavioral responses of all affected agents. OT analysts emphasize screening problems, as well as the study of tax incidence in a general equilibrium context. One should note, however, that policy recommendations by OT writers are related in only an approximate fashion to the empirical results obtained with general equilibrium models and that such models are based on restrictive assumptions about the structure of the economy.

Among the three traditions, writers on FE have shown the least interest in problems of implementation. Since they emphasize constitutional revision, relevant questions center around the organization and composition of a constitutional convention, the information that should be available to convention delegates, and the enforcement mechanisms that would have to be included in any tax constitution.

Table 3 completes the comparison of the three normative approaches by summarizing the main implications for partial tax reform. Analysis of partial changes requires formalization of value judgments in all three traditions. Since OT makes use of a formal welfare function, it can most readily accommodate such a requirement. While an index of equity has been proposed for ET, no work has been carried out on formalizing the relevant value judgments in FE. Opposing assumptions in ET and OT concerning capitalization of so-called "loopholes" should be the subject of empirical analysis. One may note that a formal analysis within the FE framework may not sustain Buchanan and Brennan's presumptions in favor of all constitutional limitations. Finally, one may note that regardless of the

TABLE 6-3

Implications for Partial Reform

ET	Measurement of value judgments required. Not all movements toward comprehensive base desirable. Ranking of partial reforms depends on vertical equity. Estimate effects of capitalization of loopholes on equity.
OT	Formalize trade-off between efficiency gains and distributional effects of reforms. Do not implement OT program completely if distributional effects of capital gains and losses associated with reforms are taken into account. Study process of actual capitalization of loopholes.
FE	Measurement of value judgments required. Presumption in favor of any constitutional limitation.

approach taken, the study of partial reform requires information on economic adjustments by taxpayers to different possible partial reforms.

b. Reasons for the Breakdown of the Consensus

The preceding tables document the breakdown in consensus concerning tax policy and tax reform. Our analysis of the three normative traditions suggests that it has occurred primarily as a result of differences in three areas, namely, in assumptions regarding basic values considered important in the design of tax structure; in assumptions about the appropriate model of government to use in constructing a normative theory of taxation; and in assumptions concerning the functioning of the private economy.

Basic values. As originally formulated by Simons, ET's primary goals are liberty, in the sense of freedom of association, and equality (Hettich, 1979a). Equality has two dimensions—vertical and horizontal—with the determination of vertical equity being left to the political process. While Simons' version of the theory treats tax policy as a part of a larger system of economic rules which must all serve the primary values, contemporary ET has come to deal almost exclusively with horizontal equity and the problems associated with achieving it through a comprehensive tax base.

OT emphasizes economic efficiency together with vertical distributional justice as these values are reflected in a social welfare function. Horizontal equity is not directly considered; at best, it is integrated informally as a constraint on the type of tax structures over which optimization of the welfare function may proceed. Liberty has not been incorporated as a basic value into formal OT analysis.

FE theorists are concerned predominantly with minimizing the risk of coercion of the individual by the government or by other individuals. In this sense,

liberty represents the central value in their system. Other values, such as efficiency and equality, are acknowledged, but are subordinated to the concern with limiting the exercise of political power.

To summarize, the range of basic values or goals in normative theories of taxation includes liberty and equality (ET in Simons' tradition), horizontal equity (in the contemporary ET tradition), vertical equity and efficiency (OT), and in FE, the absence of coercion of the individual by more powerful interest groups (including government itself). It can hardly be surprising that each tradition has a unique approach to tax reform.

Models of Government. Approaches vary as widely with regard to models of government behavior as they do with respect to basic values.

In ET the predominant model is one of pluralism. That is, public policy is viewed as the outcome of competing special interests. This view, and the belief that a 'liberal' society requires definite rules that are not subject to special interest politics, are what lies behind Simons' view that a tax rule such as the comprehensiveness of the tax base (having a similar function as a monetary rule), is required. More recent writers in the ET tradition have a more restrictive view than Simons, treating the political process as exogenous and often implying that it produces illogical or contradictory results.

In the main body of OT theory, political behavior is simply ignored. Implicitly, OT assumes the existence of an omniscient social planner, as the Meade Report acknowledges.

FE is clearly most concerned with political behavior among the three traditions since it derives its raison d'être from the need to impose constraints on such behavior. In the earlier, process-oriented version identified with Wicksell, a special interest theory of the state predominates. In the later, outcome-oriented version of Brennan and Buchanan, power is centralized in the "state," and other

interests are unimportant to the design of tax structure. The results obtained by Brennan and Buchanan are dominated by the latter assumption. It is interesting to note, for example, that ET and FE do not diverge substantially on basic values; the difference in conclusions is caused almost entirely by a difference in assumptions on the behavior of governmental agents. The Leviathan model does make an important general contribution, however, not found in the other traditions. While the level of total revenues is fixed in OT and held constant or ignored in ET, it is determined endogenously in the FE model.

The functioning of the private economy. Again, differences across theories are substantial and fundamental. Contemporary ET emphasizes the inequities of imperfect capitalization of tax loopholes across income sources. This and recent calculations of tax expenditure budgets suggest the view that the private economy is not highly competitive. The computation of tax expenditures also suggest that there is a limited appreciation of general equilibrium effects, since both private and public sector responses to changes in tax structure are ignored in the typical tax expenditure budget.

OT embraces general equilibrium and a belief in competitive markets. This is underscored, for example, in the lack of concern with horizontal inequities, which is justified on the assumption that competition will eliminate them promptly and effectively.

Like OT, FE holds that markets work effectively and that private agents and the allocation of resources will respond promptly to incentives created by the tax system. While the precise general equilibrium structure of the economy is not as important in FE as in OT, FE theory is fully consistent with the concept of general equilibrium.

Whether one considers the values adopted, or the assumptions made regarding political and economic behavior, it is readily apparent that ET, OT, and FE

represent three distinct analytical approaches and views of the world. This would not necessarily pose a problem for the design of tax structure if each of these theories were logically complete. But, in our view, and as we argue in the next section, each is deficient in its own way.

7. Reconstruction of the Foundations for Tax Reform

The comparative analysis of the three traditions in this paper suggests that a logically complete normative theory of taxation should have the following five elements:

1. a comprehensive philosophical foundation which permits quantification of value judgements;
2. an explicit treatment of tradeoffs between major objectives in tax reform;
3. a well developed public choice analysis;
4. a complementary view concerning the private sector of the economy and;
5. an explicit treatment of partial tax reform.

It will be clear to the reader that neither ET and OT, nor FE, deal in a satisfactory manner with all five essential aspects. While it would take us too far afield to discuss in detail what is missing in each approach, and how the missing elements affect the conclusions reached, we shall illustrate the point by focusing on the third element, i.e., the need for a well developed theory of public choice that is integrated into the overall analysis.

In our view, a complete discussion of tax policy must contain a description of how decisions are made in the public sector. This should include an analysis of the behavior of voters and tax payers on the one hand and of the government or the policy-making authority on the other. The public choice models must take account

of the ability of taxpayers to exercise voice through the political process, either as single voters, or by forming special interest groups, and by their ability to use economic exit, i.e., to readjust their economic behavior so as to lower the burden of taxation. It must also take account of the motives of political agents (i.e. the government) and the difficulties that taxpayers have in controlling them. (See Hettich and Winer 1984b for a further discussion).

While ET makes some reference to the influence of special interests, it does not contain a cohesive analysis of public choice. It is never made clear why a comprehensive tax base should ever be acceptable or remain acceptable, in a political system dominated by such interests. Nor is any attention paid to the trade-off, faced by all members of interest groups, between exercising political voice and reacting through economic adjustments to changes in the tax system. Finally, ET does not concern itself with the size of the public sector and the effects that movement towards a comprehensive base may have on the growth of the total budget.

The analytical gap in FE is of a different nature. While Brennan and Buchanan focus on the state, they pay a heavy price for the use of a malevolent model of government in which voters have control only at the constitutional stage. While the possibility of Leviathan-like behavior can influence the design of institutions, it is far from clear that this possibility should be the dominant consideration. Presumably, the price that people are willing to pay for insurance against Leviathan depends on the likelihood that abuse may actually occur (as well as on the tastes for liberty). Moreover, since their model excludes the interaction of partially constrained government with voters and tax payers, which is a dominant feature of democratic systems, Brennan and Buchanan have no framework to estimate the costs of adopting rigid tax constitutions. (Such costs would have to be estimated by comparing the allocation of resources under the

proposed constitution with allocation under conditions closer to what now exists.) In general, we would argue that the problems of tax reform go deeper than merely the control of Leviathan. Reforms which are aimed solely at constraining the size of government will not necessarily deal with horizontal or vertical inequities that are undesirable in an analysis based on a more complete set of values, or with inefficiencies that can arise from the relative political power of particular interest groups other than the state.

While OT contains a more complete development of some of the other essential elements, it ignores politics altogether. The perils of this no longer need elaboration—as argued repeatedly, rules designed for omniscient planners may have quite different results if they are used by agents who pursue their own ends. It may be useful, however, to point out briefly how the absence of a public choice analysis qualifies the conclusion of the recent OT literature on time inconsistency. This literature shows some concern with government, arguing, like Simons, for policy (or tax) rules rather than discretion. It is assumed that inelastic tax bases (such as capital equipment) will be taxed in an inefficient manner, since they become "sitting ducks" for the government once they have been created by private activity. The argument fails to recognize the possible adjustments by tax payers and voters to the possibility of time-inconsistent government action. Investors who anticipate such action will spend political resources to protect themselves against the possibility of loss. While the result may still be a lower capital stock than would exist if time-inconsistent behavior could not occur, it is no longer clear that policy rules that are hard to change and impose costs of their own represent the most efficient way of dealing with the problem.

We started the paper by pointing to the breakup of the consensus on tax reform that existed at the time of the Royal Commission on Taxation. We do not want to lament this break-up—the development of the literature since the late

1960s has led to a fuller and deeper understanding of tax analysis and tax design. We would, however, argue that the existing state of disagreement is undesirable since it is based on incomplete theories. Eighteen years after publication of the Royal Commission Report, the time seems appropriate for a new synthesis. While a new consensus may not be possible because of disagreements on basic values, tax policy would be well served by the creation of a logically complete framework that could accomodate elements from all three approaches and that would allow a clear and explicit connection between underlying assumptions and policy conclusions.

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